

Overview of Learning Study

This paper provides an overview of Learning Study and Lesson Study, the origin of the theories and their implementation in the classroom.

A new look at numeracy professional learning

Trial in schools

In Victoria, a trial is being conducted to explore the effectiveness of Learning Study. The focus is on hard to teach areas or 'hot spots' in mathematics. Currently three primary schools and one cluster are involved in the trial.

About effective professional learning

The Department of Education endorses professional learning research findings as part of the Effective Schools Model for school reform. The Department has published seven principles for effective professional learning for teachers. These are:

1. focused on improving student outcomes (not just individual teacher needs)
2. focused on and embedded in teacher practice (not disconnected from the school)
3. informed by the best available research on effective learning and teaching (not just limited to what they currently know)
4. collaborative, involving reflection and feedback (not just individual inquiry)
5. evidence based and data driven to guide improvement and to measure impact (not anecdotal)
6. ongoing, supported and fully integrated into the culture and operations of the system, schools, networks, regions and the centre (not episodic and fragmented)
7. both an individual responsibility and a collective responsibility at all levels of the system (not just the school level and not optional).

This is supported by the findings of the Schools Workforce Development Strategy (2003), which states:

The types of professional development most highly valued by teachers, but rare in practice, are peer-to-peer learning and various forms of mentoring and coaching from highly experienced teachers recognised for their excellent practices. Some teachers tell us that they need to see new approaches in practice before they will change their own teaching practices.

Russell, Mackay and Jane (2003) in Messages from MYRAD state:

Features of strong professional learning communities include regular, on-going targeted professional development; supportive mentoring relationships among teachers; teamwork; openness and sharing of ideas and practices; and shared beliefs and values.

In identifying and clarifying a direction for professional learning as a means of developing a learning culture, the Department of Education states that:

Schools with a performance and development culture focus on building the capacity of their teachers to teach to high professional standards. They ensure that the workplace is as much a site for teacher learning as it is for student learning. They enable professional learning and learning in the workplace, thereby, enhance the quality of teaching and learning. Teachers work in teams that enable them to explore one another's ideas and to question their beliefs and practices. Teachers engage in collegial planning and review of how well their teaching is meeting students' needs. An ethic of inquiry pervades the school about teaching and learning. (Performance and Development Culture in Schools Accreditation Application, Department of Education).

Lesson Study – a precursor of Learning Study

One form of professional learning that has gained attention in Australia is Lesson Study. In the 1980s, as a result of Japan's economic power and the achievements of its students in worldwide TIMSS and PISA testing, imitating Japanese education was regarded as an effective means of ultimately developing educational and intellectual competitiveness in the United States.

In a critique of Lesson Study, Pang and Marton (2004) suggest that Lesson Study is not based on knowledge gained from research supporting or challenging a theory, rather from the collected experiences of teachers:

Lesson Study might best be considered developmental work, because it is not systematic research even though the results are documented and shared. The theoretical component does not seem to be a defining feature of a Lesson Study.

They argue that Lesson Study denies a differential starting point for students who may be undertaking work of different levels of complexity, using the application of different or more sophisticated concepts. Similarly, Lesson Study assumes a similar end point of a lesson for the class or topic. It may be the completion of a learning experience or the capacity to reflect. It is to be acknowledged that if students have different starting points and may be undertaking different learning, it is reasonable to assume that they will not all reach the same point at the end of a session.

By jointly exploring issues of student learning and teaching to deliver improved student outcomes, teachers are better able to develop a common understanding or a mental picture of what effective teaching practice looks and feels like from a teaching perspective. In turn, this helps improve student outcomes as there is an established link between increased teacher pedagogical content knowledge and enhanced teaching strategies.

Learning Study

What is Learning Study?

Learning Study is an approach to focused professional learning for mathematics teaching.

Learning Study is a process where a group of teachers collaboratively plan teaching strategies particularly addressing hard to teach or 'hot spots' concepts in

mathematics. By focusing on student needs and research, Learning Study incorporates factors such as:

- student prior knowledge
- skills and behaviours
- teacher pedagogical content knowledge.

It builds teacher knowledge about how students develop mathematical understandings. Learning Study aims to advance student learning through building a sequence of learning experiences, reviewing the lessons and evaluating the effectiveness of the learning experiences. It is most effective when supported by an expert to offer constructive advice and support.

Learning Study has been developed by educators in Hong Kong and Sweden working collaboratively. It is applied widely in Hong Kong. There is also growing interest in England in developing Learning Study.

Why do we need Learning Study?

Improved student learning is the focus of the Blueprint for Government Schools in Victoria. The Victorian Essential Learning Standards (VELS), the Principles of Learning and Teaching, Curriculum Planning Guidelines and Assessment Advice make a coherent suite of policies and tools to support schools to meet the learning needs of all students and ensure high quality outcomes for all.

Learning Study also applies to the Planning and Resourcing phase of the Curriculum Planning Guidelines where, through planning for learning, teachers are able to have an impact on classes and individual students.

Teacher professional learning is a critical driver of educational change. In the current reform environment in Victoria, the ways that teachers learn and refine their professional competence is critical for their satisfaction as practitioners and for the students they teach.

Learning Study in detail

Learning Study draws its inspiration from the idea of design experiments (Brown, 1992; Collins, 1992) and builds on systematic and intensive investigation by Japanese and Chinese teachers into particular lessons. Compared to Lesson Study, Learning Study aims to build innovative learning environments and to conduct research into innovations grounded in theory. It also aims to pool the valuable experience of teachers, while maintaining focus on an object of learning. (Pang & Marton, 2005)

Learning Study principles

The principles upon which Learning Study is based are reflected in the Principles of Learning and Teaching:

1. The learning environment is supportive and productive.
2. The learning environment promotes independence, interdependence and self motivation.

3. Students' needs, backgrounds, perspectives and interests are reflected in the learning program.
4. Students are challenged and supported to develop deep levels of thinking and application.
5. Assessment practices are an integral part of teaching and learning.
6. Learning connects strongly with communities and practice beyond the classroom.

The elements of Learning Study are:

1. Choosing the object of learning. The object of learning can be a capability or a value to be developed during a single lesson or over a longer period of time. Examples include understanding the concept of price, fractions, and decimals. The initial characterisation of the object of learning and the attempt to achieve it should be grounded in theory.
2. Ascertaining students' pre-understandings, by an analysis of students' conceptions or a pre-lesson test on their capability. This also helps planning the research lesson(s) with respect to the different ways of experiencing the object of learning.
3. Planning and implementing the lesson(s), with the teachers and/or the researcher working together to address the critical aspects identified and to establish a course of action and materials with a focus on the particular object of learning. Afterwards, the teachers implement the plan in their own classrooms. What happens in the classrooms is observed or video-recorded for later analysis.
4. Evaluating and revising the lessons, using a post-Lesson Study or test to ascertain how well the students have developed the capability. The recorded lessons are analysed, specifically focusing on how the object of learning is handled. A comparative analysis of what happened in the classrooms is done to relate differences in the students' capabilities in handling the object of learning to differences in how the object of learning was handled in the classrooms.
5. Reporting and disseminating the results, including documenting and reporting the aims, procedures and results of the attempt, and distributing the resulting document to other teachers or to the public so that practitioners and researchers in the educational field can learn from the study.
(Pang, M F & Marton, F, 2005)

Pang and Marton state that the benefit of Learning Study is its flexibility, as it is able to accommodate diverse students and teacher groups as well as the influence of someone involved in a consultancy capacity.

The execution of Learning Study is flexible. It can be conducted by teachers in the same school or from different schools. Outside experts, such as learning specialists and subject matter specialists, can be invited to collaborate in the venture.

Furthermore, Learning Study can be applied to enhance teachers' pedagogical capabilities and professional development. It can be a component of the teacher development course for in-service teachers, teacher education programs for student teachers, or higher education programs for university teachers. (Pang, M F & Marton, F, 2005)

Conclusion

Learning Study aligns with the approaches to teaching and learning implicit in Flagship Strategy 1 Student Learning. It is a form of professional learning that encourages teachers to see themselves as innovative practitioners as well as researchers.

Teachers use their research findings to inform their teaching practice and contribute to the existing learning theory base. The learning that comes as a result of teacher collaboration through Learning Study is put into practice, ultimately leading to improved student learning outcomes.

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